Abstract of the Disclosure

Method of hydrodechlorinating nuclear-chlorinated o-xylenes and recovering o-xylene, forming hydrogen chloride, the nuclear-chlorinated o-xylenes being hydrogenated in the gas phase at a noble-metal-containing catalyst at a temperature in the range from 220 to 360°C. The catalyst preferably comprises palladium or platinum, in particular supported palladium or platinum. The nuclear-chlorinated o-xylenes can be used individually or as mixtures.